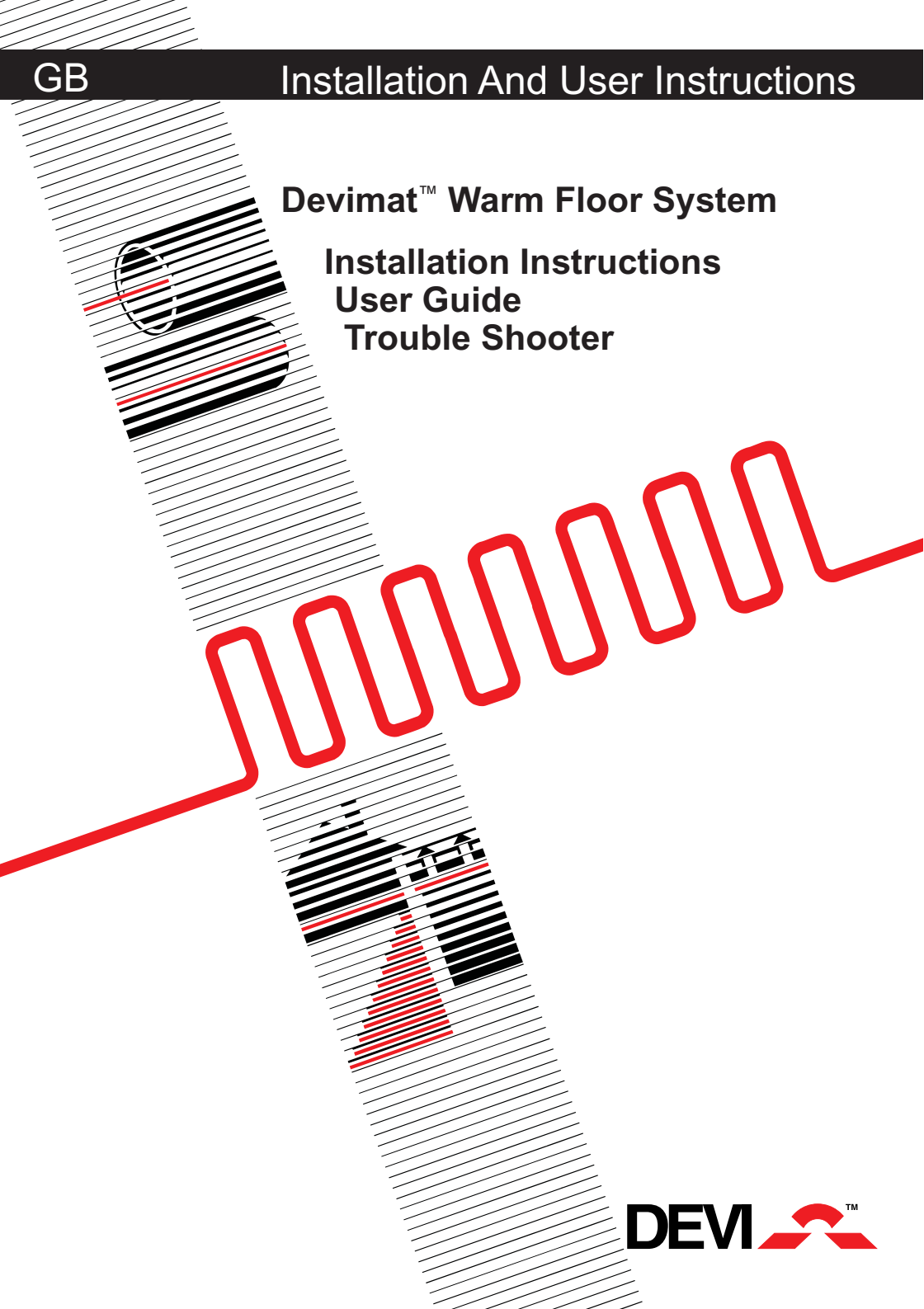
GB Installation And User Instructions

Devimat™ Warm Floor System

Installation Instructions
User Guide
Trouble Shooter



DEVI™

Existing Floor	Maximum load per m^2
Wooden Floors	100 W/m^2
Concrete Floors	150 W/m^2

In all above situations, the floor temperature must be controlled with a DEVI floor sensor and Devireg™ 550 thermostat/timer, or Devireg™ 130 thermostat.

INSTALLATION: KEY POINTS

- Before laying the mat the floor sensor (in controller box) MUST be installed. The sensor is fitted into a tube (in mat box) which should be laid 20-30cm across the floor under the mat between a cable loop.

- Before laying check the continuity of the cable, it should match the Ohm rating on the Devimat™ label with a tolerance of -5 to +10% and check the insulation resistance which should read infinity.

- To install the mat simply cut and turn the mat. The heating cable must NOT be cut or subjected to strain around the area of the coupling, only the blue and black cables can be cut to suit.

- When installing more than one mat, all 'cold tails' (blue/black wires) must be taken back to the connection point/controller, DO NOT wire one mat to another.

- After laying the adhesive the heating mat must be checked once again for continuity and insulation resistance, then connected by an authorised electrician.

- The blue central core is NEUTRAL and the black central core is LIVE. The outer surrounding copper wire is the earth screen and should be connected to earth.

- A flexible adhesive is required when installing the devimat™ product.

- Installation on new concrete floors should not be carried out for approximately 30 days to ensure thorough drying out.

Devimat™ specifications

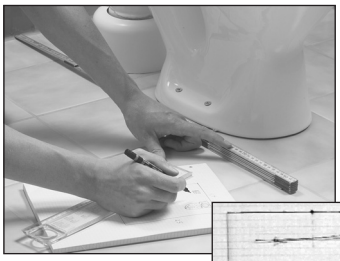
Cable	DTIF
Type	Twin conductor with screen
Voltage	230 V AC
Effect	100 W/m² to 150 W/m²
Dimension (W x H)	460 mm x 3 - 3.5 mm
Cold tails	4.0 m, 1.0 mm² plus screen

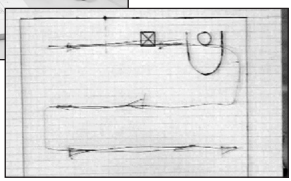
Connections

Live - Black
Neutral - Blue
Earth - Screen

CE

Installing the Devimat™





1. Draw up a plan of the room and calculate the free floor area. Use the plan to work out how to lay the mat evenly across the floor and show the location of the cold tail (where the mat starts), floor sensor and connection box. The Devimat™ should laid avoiding all floor obstructions and close floor fitting objects like pipes, baths and cupboards. It is acceptable to lay the devimat under suspended cupboards and wash basins.

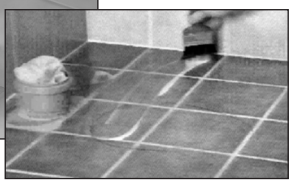
2. Mark the positions of the floor fitting objects that will be installed once the floor is finished, so when laying the mat these can be avoided.

3. Each mat is supplied with a piece of 10mm flexible tubing (only one tube is required for each thermostat), this is for the floor sensor, so that in the unlikely event that the sensor fails, it can be easily removed and replaced without lifting the floor.

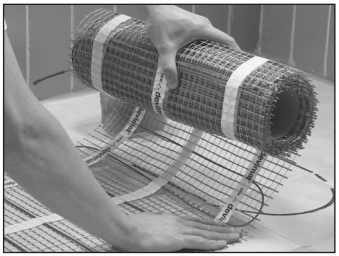
In some situations a small channel may have to be made in the floor to accommodate the tubing. If so, cut a channel from the thermostat position approximately 20-30cm across the floor.

It is important that the channel is positioned such that it lays between two heating wires and not across them and not above heating pipes below the floor. The end of the tubing in the floor is sealed with tape to prevent adhesive entering the tube.

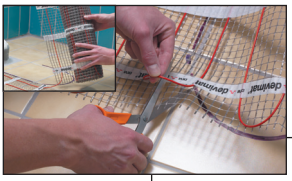
4. The existing floor should be prepared as normally required for tiling, this may include cleaning and removing all loose particles, removing any sharp protrusions that may cause damage to the heating wire, priming the floor surface and bracing a timber floor with WBP ply-for professional guidance refer to your adhesive manufacturers recommendations.



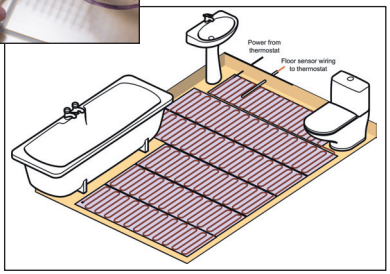
5. Before laying the mat should be tested-see page 7.



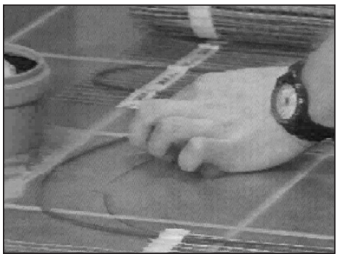
Remove the plastic outer and place the cold tail of the mat at the connection point. The Devimat™ has a self-adhesive backing, lay this to the floor and roll the mat out, if necessary the mat can be laid with the cable face down. In situations where the mat has to be turned over it can be secured using Devipins, hot glue gun (taking care not to damage the heating cable), staple gun or double sided tape.



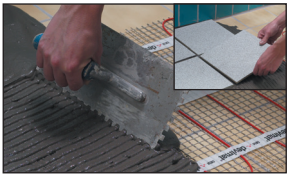
6. When the Devimat™ reaches the end of the run, simply cut the grey mesh (NOT THE RED CABLE) and turn the mat, positioning the next piece beside the first. When cutting and turning the mat ensure there is a 50mm gap between the cable loops. To avoid risk of damage at later stage do not lay the mat where objects will be put onto or fixed to the floor.



7. If required, the cable can be removed from the mesh and loops formed manually, but ensure the cables are spaced the same distance as those on the mat.

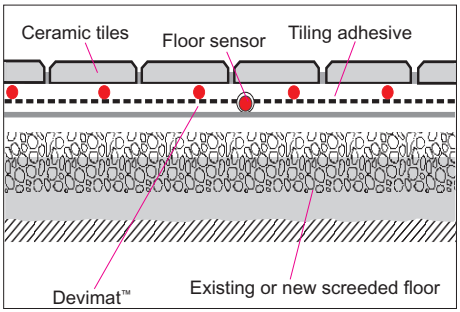


8. The mat should be tested-see page 7.
   The mat can now be covered in one of two methods-
   Concrete and wooden floors using flexible tile adhesives
   Working with a width of devimat at a time, apply flexible tile adhesive through the mat with a rubber back trowel or similar so that the heating cable is covered, making sure that there are no air pockets. Another layer of adhesive can then be applied carefully using a suitable notched trowel to comb the adhesive before applying the tiles.

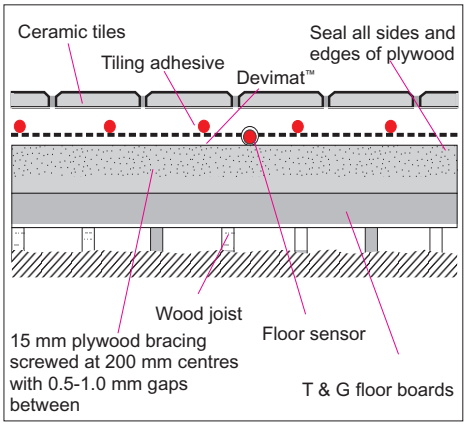


   Concrete and wooden floors using self-levelling compounds
   An alternative method is to cover the devimat with a suitable self levelling/ latex type compound. This product will find its own level giving you a flat surface to then apply a layer of flexible tile adhesive using a suitable notched trowel to comb the adhesive before applying the tiles.
   The mat should be tested-see page 7.

Installing the Devimat™ on concrete floors



Installing the Devimat™ on timber floors


Ceramic tiles
Tiling adhesive
Seal all sides and edges of plywood
Devimat™
Wood joist
15 mm plywood bracing screwed at 200 mm centres with 0.5-1.0 mm gaps between
Floor sensor
T & G floor boards

Flooring note:

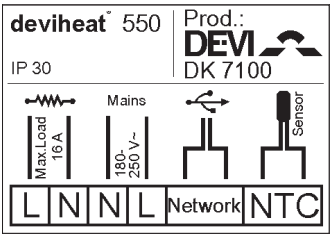
Whichever floor covering is being used with the Devimat system, it must be covered with a latex/adhesive covering before the floor finish is laid, the suitability of which should be checked for use with underfloor heating with the manufacturer. If using Devimat beneath wood laminate flooring, you must only use the thin foam type sound-deadening layer, this must not exceed 3mm.

Wiring and controlling the devimat

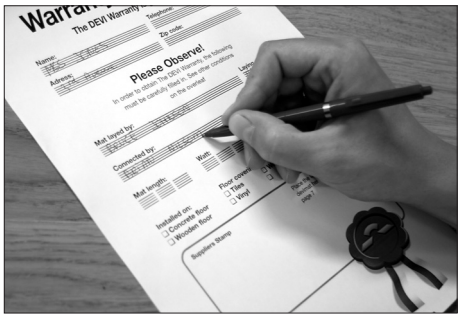
A qualified electrician must connect the heating mat, in accordance with the current wiring regulations BS 7671.
It is recommended that the Devimat™ be connected via a 30mA RCD (residual current device). Wiring regulations state that the thermostat should be located away from sources of water, i.e. outside the bathroom. As the thermostat is sensing floor temperature, the control unit can be located at any level from the floor. ONLY the cold tail(s) of the Devimat™ and the black floor sensor should be leading from the floor to the thermostat position.
The Devimat™ must be controller using either a Devireg™ 130 or a Devireg™ 550, both of which use a floor sensor to monitor the floor temperature.
Both thermostats have a switching limit of 16 amps (35m^2 of Devimat™ on timber floors or 23m^2 of Devimat™ on concrete floors) if above these limits a contactor or multiple controllers should be used.

Wiring the Devireg™ 130-see instructions enclosed with the Devireg™ 130.
Wiring the Devireg™ 550-see the instructions below:

Wiring The Devireg™ 550
The sensor cable, heating mat and electricity supply can now be connected.
Five simple steps to connecting your controller are:
1. The mains voltage is connected to the terminals marked (Mains L & N).
L = Live
N = Neutral
2. The devimat™ is connected via terminals L and N where :
Blue Cable Central Core = Neutral
Black Cable Central Core = Live
3. The screening around the black and blue wires of the devimat™ should be connected to the earth terminal within the electrical box, in accordance with the electricity regulations.
4. The sensor must be connected to the terminals marked NTC. This cable can be shortened as required and connected either way round.
5. The 'Network' terminal is not used.



Installation complete



Following installation the Warranty Certificate on the back of this user guide should be filled in.

The Devimat™ system should not be turned on until the adhesive and tile grout has completely dried, then once dried it can be turned on gradually over a 48 hour period.

No close fitting objects should be laid or fixed to the warm floor area, for example thick mats or beanbags.

Testing

At each stage of the installation it is recommended that the heating mat is tested for the following:

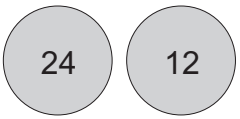
Continuity- This checks that the heating cable (blue and black wires) are intact and have the correct resistance. The resistance is checked with a multimeter and the reading should match the resistance rating on the label on the cold tail of the Devimat™ with a tolerance of -5 to +10%. Ensure your multimeter is capable of reading values between 28-550 ohms.

Insulation- This checks that the earth screen around the heating cable has not been damaged and shorted to the heating cables. The test can be made with a multimeter and can be done by testing the path between the blue cable and the earth screen and the black cable and the earth screen, both should read infinity.

Setting up your Devireg™ 550 programmable thermostat with your devimat™ system

If the thermostat is displaying 'CODE', initially you will ONLY be presented with step 1 and step 4, set these as described below.

Once you have either completed steps 1 and 4, or the controller is displaying something other than 'CODE', you must press and hold the button until the word 'CODE' is displayed and follow the steps below:

Step 1-Setup code	Rotate button to select code 0044 and then press button once.	
Step 2-Operating mode	Rotate button to select 'ALO' and then press button.	
Step 3-Temperature readout	Rotate button to select °C and then press button.	
Step 4-Sensor selection	Rotate button to select 'FS' to activate the floor sensor, then press button (not rFs or rs).	
Step 5-Maximum floor temperature selection	At 'nt' rotate button to select either of the following temperature selection maximum floor temperatures, then press button. Tiles on timber based floors 29°C Tiles on concrete based floors 40°C Timber covered floors (parquet etc.) 27°C	
Step 6-Off periods	'LO' should be displayed, you should rotate dial to select -15°C, then press button.	
Step 7-Clock display	Rotate button to select clock display as either 24 hours or 12 hours AM/PM.	
Step 8-Save settings	Press button once.	

(If the controller is now displaying 'CODE', disconnect the power to the controller and then reconnect)

Now you can set the time and day on the controller.

Step 9-Setting of clock	Press and hold button until is displayed in bottom left corner. The display now shows the time and day (number 1 represents Monday, number 7 is Sunday). Rotate the dial to show the correct time and day of the week and then press the button to save the correct time setting.

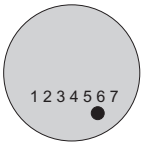
*If any steps are skipped, hold button until word 'CODE' is displayed to reset controller and start again at step 1.

Finally you can now set how you wish the controller to operate.

You can operate the controller in either **Manual** or **Timer** Mode, by pressing the button you can toggle between these two modes.

Manual Mode In this mode the temperature set on the display is maintained 24 hours a day, i.e. no timing facility and therefore no '🕒' displayed. Whilst in manual mode, if you rotate the dial to level 1.0 then turn the dial further anti-clockwise, the thermostat will switch off and display 'OFF'.

Timer Mode On the timer program, the controller switches on and off as programmed. With this mode you tell the controller **at what time of day you want a warm floor** and then using its intelligence,the controller learns how long your floor takes to warm up.



Step 10 Enter timer mode — Press and hold button until ↻ is displayed in bottom right corner.

Step 11 Select first day — Rotate button to display the first day you wish to program and then press button.

Step 12 First start time — Rotate button to indicate the start of the first time period when you want a warm floor (i.e. 06:00) and then press the button.

Step 13 First end time — Rotate button to highlight duration of first warm floor period, then press button to indicate the end of first time period (i.e. 07:30).

Step 14 Continue — Rotate button to indicate next warm floor start time, press the button, rotate to the end of the period and press button again. Continue this through the whole week.

Step 15 Save program — To save programs, press and hold the button to return to the normal display. By pressing the button once you can now toggle between manual and timer modes.

Step 16 Set floor level — The button now controls the heat level of your Devimat™ system. The controller can be adjusted to the required heat level on a range from 1-10, level 10 being the maximum floor heat. The displayed heat level is what the controller will provide at the times programmed. It is recommended that you initially set to level 5, then adjust to suit.

Devimat™ Trouble Shooter

Should you experience any problems with the Devimat™ not warming the floor, before calling DEVI, the following tests should be carried out:

No.	Test	Expected Outcome	Action
1	Check for a 230V supply to the thermostat on terminals 1 and 2.	230V	If no voltage present, connect supply.
2	Rotate thermostat dial to position 10 and test for a 230V output on terminals 3 and 4. This may take a few minutes to switch on.	230V	Firstly, check resistance of floor sensor first (step 3). If floor sensor is normal, the thermostat is faulty-contact your supplier.
3	Turn off power to thermostat and test resistance of floor sensor.	10-20k , depending on temperature of floor.	If sensor is faulty, call your supplier for replacement.
4	Turn off power to thermostat and test resistance of the devimat™.	27-550 , depending on mat size (see mat label).	If mat is faulty, the mat has been damaged, contact your supplier.
5	Turn off power to thermostat and ensure there is no continuity between the conductors and the earth screen.	No continuity.	If there is continuity between the conductor and screen, the mat has been damaged, contact your supplier.

Devireg™ 550 Controller Trouble Shooter

If the outer ring on the Devireg™ 550 controller is flashing you have a fault, note the small number at the bottom of the display and follow the procedures below:

Fault	Possible Cause	Solution
Devireg™ 550 controller indicating error No. 2.	Unit Configured as a Master,but can detect another master unit	Only one unit may be configured as a master-see 550 programming instructions.
Devireg™ 550 controller indicating error No. 3.	Unit Configured as a Slave, but cannot detect another master unit	Only one unit may be configured as a master-see 550 programming instructions.
Devireg™ 550 controller indicating error No. 4.	The thermostat is over heating	Let the thermostat cool down and check the wiring.
Devireg™ 550 controller indicating error No. 5.	Sensor fault-floor sensor short-circuit	Check the floor sensor wiring and check for a resistance reading of 10K - 24K Ohms.
Devireg™ 550 controller indicating error No. 6.	Sensor fault-floor sensor open-circuit	Check the floor sensor wiring and check for a resistance reading of 10K - 24K Ohms.
Devireg™ 550 controller indicating error No. 7.	Clock not adjusted	Set the clock.
Devireg™ 550 controller not working at all.	No power Wiring incorrect or Faulty unit	See devimat™ Trouble Shooter above.

IF AT ANY POINT THE CONTROLLER IS NOT FUNCTIONING CORRECTLY PLEASE TURN OFF THE POWER AND RESET THE CONTROLLER.

The DEVI Warranty:

You have purchased a Deviheat™ system, which we are certain will improve your home comfort and economy.

Deviheat™ provides complete heating solutions with Deviflex™ heating cables or Devimat™ heating mats, Devireg™ thermostats and Devifast fitting bands.

If, however, contrary to all expectations, a problem should occur with your heating system, we at DEVI, with manufacturing units in Denmark, are, as European Union suppliers, subject to general product liability rules, as stated in Directive 85/374/CEE, and all relevant national laws which imply that:

DEVI provides a warranty for Deviflex™ heating cables and Devimat™ heating mats for a 10 year period and all other DEVI products for a 2 year period against defects in material and production.

The guarantee is granted on the condition that the WARRANTY CERTIFICATE overleaf is filled out properly in accordance with instructions and that the defect is inspected by, or presented to, DEVI or their authorised DEVI distributor.

Please note that the wording of the WARRANTY CERTIFICATE must be provided in English with the ISO code for your country in the upper left corner of the front page of the installation instructions in order to release the warranty.

The obligation of DEVI will be to repair or supply a new unit, free of charge to the customer, DEVI are not responsible for secondary charges linked to repairing the unit. In case of defective Devireg™ thermostats, DEVI reserves the right to repair the unit free of charge and without unreasonable delay to the customer. The DEVI warranty does not cover installations made by unauthorised electricians, or faults caused by incorrect designs supplied by others, misuse, damage caused by others, or incorrect installation or any subsequent damage that may occur. If DEVI is required to inspect or repair any defects caused by any of the above, then all work will be fully chargeable.
The DEVI warranty is void, if pay-ment of the equipment is in default.

At all times, we at DEVI will respond honestly, efficiently and promptly to all queries and reasonable requests from our customers.

The above mentioned warranty concerns product liability whereas matters in relation to legislation on sale of goods shall be referred to national law.

N.B. Unit means DEVI installed equipment.

Warranty Certificate

The DEVI Warranty is granted to:

Name: Phone:

Address: Postal code:

Please Observe!

In order to obtain the DEVI Warranty, the following must be carefully filled in. See other conditions on the overleaf.

devimat™ layout contractor: Lay-out date:

Electrical Installation by: Installation date:

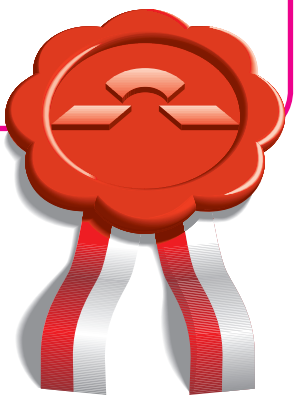
Mat length: Watt:

Stock code:

Application:

☐ Concrete floor ☐ Tiles ☐ Parquet
☐ Wooden floor ☐ Vinyl ☐ Carpet

Supplier Stamp:



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